UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

SPECTRUM DYNAMICS MEDICAL LIMITED, Plaintiff, v. GENERAL ELECTRIC COMPANY, GE HEALTHCARE, INC., GE MEDICAL SYSTEMS ISRAEL LTD., JEAN-PAUL BOUHNIK, SERGIO STEINFELD, ARIE ESCHO, NATHAN HERMONY, and YARON HEFETZ, Defendants.	Case No.: 18-cv-11386 (VSB) **JURY TRIAL DEMANDED**

DECLARATION OF DAN INBAR
IN SUPPORT OF SPECTRUM'S CLAIM CONSTRUCTION BRIEF RESPONDING TO DEFENDANTS' OPENING CLAIM CONSTRUCTION BRIEF [D.I. 224]

Personal Background

1. My Name is Dan Inbar and my home address is 22 Disraeli St. Haifa, Israel.

2. As per the attached curriculum vitae, I received my technical training at the Technion (Israel) Institute of Technology where I studied in the Department of Nuclear Engineering after receiving a Bachelor of Science degree in Electrical Engineering.

3. Much of my career has focused on medical imaging systems on behalf of Elscint Ltd. ("Elscint"). Throughout my career at Elscint, I was involved with and in many cases responsible for expanding Elscint's product line of medical imaging apparatus to the point that Elscint grew to be able to compete with its competitors all over the world and in virtually all medical imaging modalities.

4. Because of my long experience in nuclear detection instrumentation (1965-1973), nuclear medicine (1967-1994), my work in the field of Nuclear Terror mitigation (2004-2007), and my R&D work in other fields, I am very experienced in leading, guiding, and

managing the development of medical, other imaging apparatus, and other products both on the physics and techno-clinical side of capturing (or acquiring) nuclear radiation as well as designing the physical apparatus used to perform the imaging and non-imaging products. Because of my expertise in nuclear detection and my nuclear electronics technical background, I have also been intimately involved with the electronics used in medical, non-medical imaging systems, and other products. Below is a summary of my career.

5. I studied at a trade school from 1953-1957 in radio engineering. The first two years of learning included mechanical design, such as metallurgy, and other mechanical engineering skills from hands-on welding to designing and construction of mechanical apparatus (e.g., a morse key).

6. After completing my BSc Electrical Engineering studies in 1965, I was in charge of nuclear electronics research and development at Elron Ltd. ("Elron"). I was the manager responsible for the Nuclear Detection research product line and Elron's first nuclear medicine kidney function probes (which included gravitational effects compensation means) In 1969, I began working as a Co-Founder for Elscint. During my time at Elscint, I was promoted to chief scientist in 1973. In 1969, I lead the first Elscint Gamma camera R&D project. By 1973, I joined the efforts to salvage the design problems of the second Elscint Gamma camera named the Klein-Zioni camera.

7. From 1970 to 1973, I acted as inventor and project manager in the R&D of: (i) a novel counter-counterfeit banknotes printing machines for the Netherlands and Israeli national bank; and (ii) a novel vandal resistant pay phone for the Israeli government. For these two projects, above and apart from being the system design manager, I also initiated and co-developed the mechanical sub-systems of the products. These 3 years gave me a hands-on experience in mechanical engineering.

8. From 1975 to 1978, I was the primary inventor, system designer, and leader of the research and development that lead to the development of the world's first digital gamma camera, the Apex Product line. From 1979 to 1986, I was the Vice President R&D for Elscint where I led a team of up to 520 medical imaging professionals in the development of medical imaging and other modalities (e.g., nuclear cameras, SPECT, CT, MRI, ultrasound, X-ray, Cath Lab, digital fluoroscopy, mammography and more).

9. From 1986 to 1989, I was corporate Vice President and Chief Scientist for Elscint in Boston, Massachusetts.

10. In 1989, I was named Vice President for marketing at Elscint. In this position, my marketing department had the responsibility to initiate, provide the specification, and/or confirm new products.

11. In 1994, I started my own company called Smartlight Ltd. where I was the Founder, Chairman, and CTO of medical imaging image interpretation film viewing modality. During the late 1990's, I was a Board Member of Elscint. Since late 2001, I used my technical background to consult and publish technology and market reports in matters relating to Homeland Security and Public Safety, Industrial Automation, and Quantum Computers.

12. I am the inventor of many patents, but I am not an expert in patent law. In my past experience, I have participated in various capacities in a number of patent litigations on behalf of my former employer Elscint (now GE, Philips and others), some of them involving nuclear medicine. As a result, I have come to understand generally what claims are, and how they are to be understood – plain and ordinary meaning in light of the specification.

13. Additionally, I have come to understand that under certain conditions the plain and ordinary meaning of claim terms gives way to a means-plus-function analysis under 35 U.S.C §112.

14. I cannot opine on the law, but I can provide my opinion on how a person of ordinary skill in the art ("POSA"), having a background in the design of nuclear imaging systems, would understand the words and phrases of the claim terms.

15. A full listing of my experience, appointments, awards, professional memberships and societies, lectures and speaking engagements, and patents appear in my curriculum vitae, which is attached as Exhibit A.

16. Attached as Exhibit B is a listing of the materials that I considered in preparing this Declaration.

17. In the process of preparing this Declaration, I have read U.S. Patent No. 9,295,439 ("the '439 patent"), portions of the patent prosecution file, and the Invalidity Contentions (attached as Exhibit C).

18. I have not testified at trial or by deposition as an expert witness in the past five years.

19. I am being compensated for services provided in this matter at a rate of $500 per hour. My compensation is not contingent on my opinions, on the outcome of any matter, or on any of the technical positions I explain in this Declaration.

20. I have no financial interest in any of the parties to the litigation nor any financial interest in the '439 patent-in-suit or any other asserted patent currently asserted in the Action.

Person of Ordinary Skill in the Art

21. I understand from counsel that a hypothetical POSA is to be used as a frame of reference as to how the patent would be understood. I also understand from counsel the factors to consider in determining a POSA are (i) the inventor's knowhow including education and experience level, (ii) the type of problems encountered in the art, (iii) any solution known in the prior art, (iv) the rapidity with which innovations are made, (v) the sophistication of the technology, and (vi) educational level of active workers in the field.

22. For over 40 years (1966-2007), the major share of my work was devoted to lead, guide, and manage multidisciplinary R&D teams in the implementation of medical and non-medical imaging detection modalities. An example of a non-medical modality is a nuclear detection system which I invented and designed during 2004-2007 of a terror related nuclear weapons and Dirty (Radioactive) bombs detection systems (*see* U.S. Patent Nos. 7,847,260 B2, 8,143,586 B2 and 8,173,970 B2). Throughout my life I spent over 50 years studying professional literature, attending hundreds of conferences, and performing my own research in dozens of professions. The number of medical imaging professionals I managed reached approximately 520 professionals in the fields of nuclear and computer scientists, mechanical engineers, analog and digital electronics engineers and others at eleven R&D centers around the globe.

23. I have been asked who I would consider a person of ordinary skill in the art to be. Evidence from the claims and patent specification support Spectrum's definition of a POSA. The claims of the '439 patent are directed to an "apparatus for capturing images" comprising generally a column and weight compensation unit to be used in a medical imaging system, particularly in the nuclear medicine field. Further, the patent specification contains embodiments that the specification states, "are described in sufficient detail to enable those skilled in the art to practice the embodiments" ('439 patent, 2:38-40). While, the educational level of the alleged "inventor" is a Ph.D. in Physics, the educational level of active workers in the medical imaging field are mechanical engineers familiar with the layout of mechanical components, or an engineer having equivalent experience, working in a design team which includes nuclear physicists and electrical engineers. Also, given the sophistication of the technology, a POSA would need to be guided by a team as to allowable dimensions, tolerances and internal components and have experience specifying mechanical components.

24. Considering the technology at issue in the '439 patent, a POSA would be a mechanical engineer familiar with the layout of mechanical components, or an engineer having equivalent experience, working in (or leading) a design team which includes nuclear physicists and electrical engineers to guide the POSA as to allowable dimensions, tolerances and internal components. The POSA would have experience specifying mechanical components, i.e., providing the specifications for the mechanical elements which are needed to assemble the design.

How I analyzed the '439 Patent

25. I began my analysis by first reviewing and familiarizing myself with the claims and specification of the '439 patent (Exhibit D) and portions of the patent prosecution file. I have read the correspondence between GE and the examiner as part of the '439 patent prosecution file. When reviewing the September 17, 2015 Non-Final Rejection, the examiner rejected claims 1, 9 and 17 by discussing the prior art (U.S. Patent No. 5,047,641) in that a sensor with counterbalance was already patented with one example of a seesaw mechanism. (September 17, 2015 Non-Final Rejection at pg. 3, para. 5.) The examiner states (*Id.* at pg. 4, para. 7),

> *[w]ith respect to claims 4, 5, 12, 13, 19, and 20 (see rejection of claim 19 above), the prior art does not appear to disclose or reasonably suggest that the column is one of a plurality of columns, and wherein all of the plurality of columns comprise a radiation detector disposed within a movable section of each column and only a portion of the plurality of movable sections of the columns are connected to a weight compensation unit.*

26. The examiner defined the columns to include a movable section and a weight compensation unit. Following a telephone interview on December 4, 2015 between the examiner and GE representative the following summary was written by the examiner: "Applicant proposed adding a limitation which stated that the weight compensation unit is 'positioned within the gantry'. The Examiner agreed that an amendment to this effect would

be sufficient to overcome the present rejection. An amendment will be forthcoming." (December 4, 2015 Applicant-Initiated Interview Summary).

27. Also, I have reviewed PCT publication PCT/IB2013/053721 ("the '721 PCT") published on November 14, 2013, with particular attention to the description of Figures 6A-6G (Exhibit E).

28. I read GE's Opening Claim Construction Brief in an effort to understand GE's interpretation of the disputed claim terms and cast my opinion as specified in this Declaration.

29. I understand from counsel that the claim language itself is always the starting point in understanding the meaning of the claim terms. As I did many times during my professional life (when I draft disclosures for new patents, proofread my patent applications, studied prior art patents, and studied patents during litigation), I read the claims and reviewed the rest of the said patents to understand the meaning of the terminology and texts of the claims.

OPINION

Technical Background

30. The '439 patent is directed to a weight compensation system for radiation detectors located in association with a Nuclear Imaging system gantry. Nuclear medicine gantries are known in which a patient lying on a table is advanced through the bore of the gantry where gamma radiation leaving the body of the patient is detected, pre-processed and then processed to reconstruct images of the scanned individual.

31. The '439 patent in column 1 under "Brief Description of the Invention" states the subject matter of the invention generally relates to an apparatus and method for diagnostic medical imaging such as nuclear medicine imaging ('439 patent, 1:6-8). In nuclear medicine imaging, systems with multiple detectors or detector heads may be used to capture an image, or to scan a region of interest ('439 patent, 1:8-10). Figure 1 of the '439 patent schematically illustrates a "subject 102" being prepared to enter the "gantry 110" of the camera.

32. In the case of nuclear medicine, a patient is administered with a radiopharmaceutical which then spreads throughout the body and localizes certain locations where the radiopharmaceutical emits radiation in the form of gamma rays. A fraction of these gamma particles interacts with a radiation detector located outside the body, which causes the detector to then emit a signal. Countless numbers of gamma particles are acquired during the scan and some, but not all of these gamma particles, are detected. Based upon where each particle-related signal originates on the detector, imaging software, firmware or analog electronics determines the origin of a given particle and its location to thus provide location data. This data is then combined with the location data from all of the other particles to be reconstructed into an image.

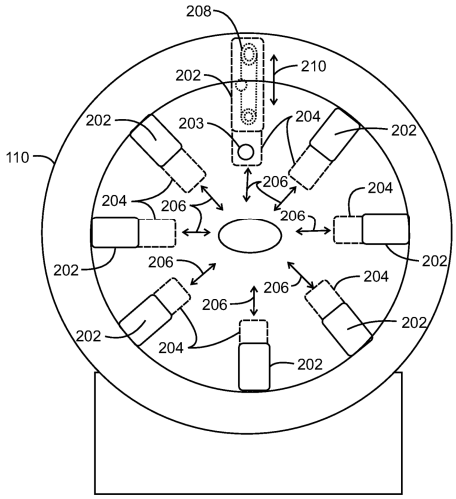
33. It is desirable that as many as possible detectors be brought as close to the body of the patient because that improves the location accuracy from which a given gamma particle has been originated. In the '439 patent, movable sections and movable radiation detectors are received and housed in "column 202" and are able to extend from the individual "column 202"[1] as close as possible to the imaged body. Said "close position" optimizes both detection sensitivity and spatial resolution, resulting in the optimization of image quality. I am aware of several prior commercial systems which used 2 detectors. Here are two examples:

- A dual head rectilinear scanner developed and manufactured by Elscint in the early 1970s. This dual head rectilinear scanner was commercialized (1971-1975) by GE in North-America under the GE label.
- An Apex line dual Anger camera used especially as a whole body and SPECT imaging system.

[1] I note that, the '439 patent uses and defines the term "column" differently in the specification and the claims. In the specification, "column 202" is a separate element from the "movable section 204" in claims 1 and 17, or "movable radiation detector 203" in claim 9, while the claims refer to the claimed column as comprising the movable section/radiation detector.

34. To the best of my memory, I do not recall using the word column in relation to SPECT systems technologies.

35. The '439 patent, however, provides that the column in the claims is referring to a column such as "column 202". As shown, the column is a longitudinal element having a section which receives a "movable section 204" containing a "radiation detector 203" and moves in and out of the longitudinal element (the '439 patent uses the terms "*towards and away from the subject*" and "*in and out*" when describing the respective movable elements). ('439 patent, 1:55-57; 4:16-19; 5:13-14; 7:20-22). This is shown very clearly and unambiguously in Figure 2 of the '439 patent.



200
FIG. 2

36. As seen in Figure 2, there is the "gantry 110," with what the specification calls a "column 202," and with what the specification calls "movable sections 204." The specification is unambiguous in this regard.

37. As seen in Figure 3, for example, the "movable sections 204" includes the "radiation detector 203." Figure 4A shows the "radiation detector 203" being housed in

"movable sections 204," as does Figure 4B, Figure 5, and Figure 6. In each and every case, the "movable sections 204" slides telescopically in and out of a "column 202."

38. Figure 2, however, has an additional embodiment shown at the top of Figure 2 wherein "column 202" itself is "retractable" and also movable towards and away from the "subject 102." This is seen very clearly by virtue of the up-down "arrow 210" to the right of "column 202." ('439 patent, 3:59-62). So, in this configuration both the "movable sections 204" and "column 202" itself are each independently movable, but the fact remains that in every embodiment in Figure 2 the "movable sections 204" is received and is housed in "column 202." I also note that the claims of the '439 patent do not recite an embodiment where "column 202" is retractable into the "gantry 110".

39. When I review the specification of the '439 patent and compare it to the language of the claims, I notice what I consider to be an inconsistency as I noted in footnote 1. I note that the specification states that "column 202" includes a "movable section 204" at numerous locations. (See e.g., '439 patent, 3:38-40, 60-62; 4:15-17, 59-60, 5:13-14). But the specification also makes clear that the "movable section 204" and "radiation detectors 203" are separate components themselves as well as from "column 202," and that the "radiation detectors 203" are received into and housed within "movable sections 204" of "columns 202." ('439 patent, 3:38-43).

40. The "column" is an assembly comprising a static part "column 202" and a "movable section 204". When defining a longitudinal (linear) movement where the purpose of the mechanism is to lengthen or shorten the distance between its edges, the edge of the movable section houses the detector and the entire purpose of the apparatus is to move the detector toward or away from the patient ('439 patent, 1:25-35). The mechanism that is described in the '439 patent is a mechanism where "column 202" receives "movable section 204."

41. However, as I noted in footnote 1 and Paragraph 39, the specification treats the various components "column 202," "radiation detector 203," and "movable section 204," as separate and distinct components, while the claims of the patent all seem to treat the "radiation detector 203" and "movable section 204" as components of the column as claimed.

42. I have tried to reconcile this inconsistent language and usage of terms between the specification and the claims from the perspective of a POSA. I will discuss this in greater detail in connection with my understanding of the claim terms and phrases at issue.

The '439 Patent

43. The application that matured into the '439 patent was filed on July 9, 2014 and issued on March 29, 2016. The asserted claims of the '439 patent (claims 1, 2, 9 and 17) are directed to a nuclear medicine imaging system comprising (i) a column "attached" to a gantry or (ii) a column "extending" from a gantry. Claims 1, 9 and 17 are independent claims.

44. The "column" recited and claimed in the asserted claims further comprises a movable element, i.e., (i) a "moveable section 204" in claims 1 and 17, or (ii) a "movable radiation detector 203" in claim 9. Because the '439 patent specification describes and these Figures depict only a "column 202" in combination with a "movable section 204" and a "radiation detector 203" as separate elements, as noted above, the claims recite a different column, which itself comprises a movable element or a radiation detector in addition to longitudinal "column 202."

45. Throughout the '439 patent when referring to the "column," it is defined as comprising a "movable section 204" (for example claims 1 and 17) or a "movable radiation detector 203" (as in claim 9). In other sections of the '439 patent when referring to the column with the number "202," e.g., "column 202" ('439 patent, 3:60-62, 4:17-19, 4:59-61), it is regarding an element that together with the "movable section 204" or the "detector head 203"

comprise an assembly that in other cases (as mentioned above) is named with the same word "column."

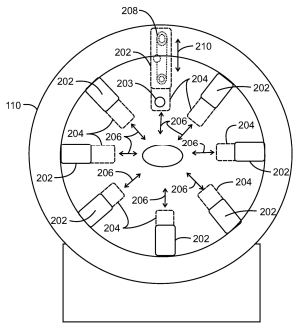
46. I realize that the starting point of my analysis must be the language of the claims themselves, but it is very hard to separate that analysis from the way the text itself in the specification uses the terms. It seems to me that doing so would effectively allow a patentee to claim what they did not disclose. I understand that this cannot be the law, since the patent specification must support what is claimed.

47. Nothing can be clearer to me than that every embodiment in the '439 patent has a movable element, either the "movable section 204" or "movable radiation detector 203," that moves in and out of what the specification calls "column 202."

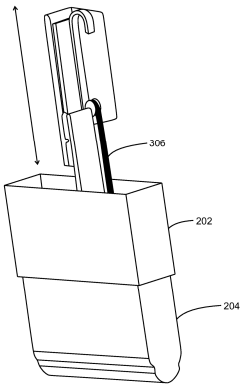
48. This is confirmed, for example, by claim 9 itself. The claim states that the force has to be applied to the movable element. If the movable element were nothing more than an integral part of the column, applying the force to the "movable" element would make no sense.

49. The purpose of the embodiments described in the '439 patent is to define a way to extend and retract the detectors that are within the movable sections placed around a patient in order to move them (the movable sections) "toward" and "away from" the patient to increase or reduce the bore size. Therefore, the embodiments cannot include a column with static (unmovable) elements.

50. As further depicted in Figures 2 and 4C below, the column comprises, at least two corresponding structural elements that move relative to one another, where the "movable element 204" is received and housed in the corresponding longitudinal "column 202" of the column in the claims.



200
FIG. 2



400C
FIG. 4C

51. I note that "FIG. 2 illustrates a diagram of a front view of a gantry having columns including movable sections. As illustrated in FIG. 2, the gantry 110 defines an opening that may receive a subject, such as the subject 102 discussed above in regard to FIG. 1. Columns 202 extend from the gantry 110. The columns 202 are configured to house radiation detectors 203 within movable sections 204 of the columns 202. As indicated by the dashed boxes and the arrows 206, the movable sections [204] may be selectively moved toward and away from the subject 102." ('439 patent, 3:34-43, 2:12-13)

52. I have copied Figure 4C, which shows this arrangement, more clearly. The Figure depicts a single "column 202" (without "gantry 110") where the "moveable section 204," that receives and houses a separate "radiation detector (not shown)," is telescopingly received and housed in the longitudinal "column 202" of the column of the claims. (*Id.*, 2:20-23, 5:16-17.) Other than the embodiment where "column 202" is additionally retracted into the "gantry 110,"[2] this telescoping arrangement where the column comprises, at least, a movable element and a longitudinal "column 202" that receives and houses the movable element, is the only column of the claims disclosed, described or enabled to a POSA by the '439 patent in my opinion. (*Id.*, Figures 2, 3, 4A-C, 5-6, 1:45-2:4) (all embodiments described in the "Brief

[2] In an unclaimed embodiment, I note that the column 202 alone is retractable into the gantry 110. ('439 patent, 3:59-63.)

Description of the Invention" include a movable element); *id.* at 4:16-20 ("As indicated by the arrow 312, the movable section 204 may move in and out of the column 202 in order to move a radiation detector 203 closer to, or farther away from, a subject, such as the subject 102," (as shown in Figure 3); *id.* at 4:26-33 (discussing Figure 4A, "a portion 406 of the weight compensation unit 208 may [be] stationary with respect to the movable section 204"); *id.* at 4:45-53 (discussing "movable section" of Figure 4B).) I, further, see no disclosure in the '439 patent wherein the column comprises a single unitary structural element without a distinct movable element.

"Column"

53. I understand that the parties dispute the meaning of the term "column" as it is used in the claims of the '439 patent, specifically claims 1, 9 and 17.

54. Despite the inconsistency I noted above, I find the meaning of the term to be relatively straightforward to a POSA. Both the claims and the specification describe the column of the claims as including components such as "movable section 204."

55. It could not be clearer and there is no doubt in my mind that the column of the claims must comprise a movable element that moves relative to (in and out) the longitudinal "column 202," and this is exactly what the claims say ("the column comprising the "movable section" in claims 1 and 17 or "a movable radiation detector" in claim 9). I notice that the GE Claim Construction Statement defines the word "comprise" to mean "include" (at p. 12), and I agree with that understanding.

56. For purposes of giving a word definition, based upon what I have learned and my personal experience in nuclear medicine apparatus design as well supervising those in such design, I believe that a POSA would understand the "column" to mean a longitudinal element having a section that receives a movable section which contains a radiation detector.

57. I do not agree with GE's position (Claim Construction Statement at p. 9) because GE seems to define the column of the claims as possibly being just a single element wherein there are no parts that move relative to one another, other than the column itself which moves as a whole with whatever the column may include inside, e.g., "a movable section 204" or "movable radiation detector 203." This is not a fair reading of the '439 patent or the claims. Nothing in the patent or claims would lead me to believe that the claimed column could be a single element.

58. After reading the '439 patent, I do not understand how a "column" can be defined as a unitary element.

59. GE refers to Figure 2 as showing a movable "column 202," (Claim Construction Statement at p. 2) but here too, I note that "movable section 204" is received and housed in "column 202" as well as moves relative to "column 202."

60. I note that GE seems to be changing the words of the claim: instead of reading the "column" comprising a "movable section," GE's interpretation of the claim removes the word "movable" next to "section" out of the claims and moves the word "movable" to be next to the "column". Here is what I mean:

The claims say:

the column comprising a movable section

GE construction permits the claims to cover:

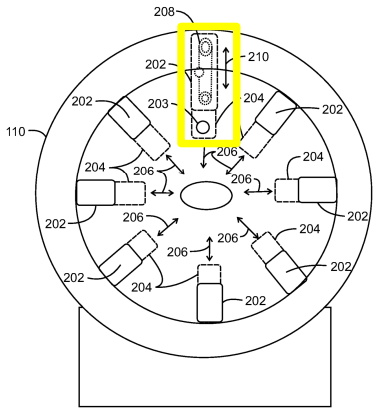
A movable column comprising a ~~movable~~ section

or

A movable column comprising a ~~movable~~ radiation detector

61. Figure 2 shows two embodiments, but both embodiments show a "movable section 204" receiving and housing "a radiation detector 203." In Figure 2, eight columns are illustrated, but the top column also shows "movable section 204."

62. With reference to annotated Figure 2 below, in one embodiment in each of the seven columns, "column 202" is stationary, while in the other embodiment "column 202" recedes or is retracted into "gantry 110" (shown in yellow box).



200
FIG. 2

63. But in both embodiments, "movable section 204" telescopes into "column 202." GE could have claimed a *movable column* instead of a *movable section*, but GE did not.

64. It is my understanding that a disclosed but unclaimed embodiment (i.e., an embodiment wherein the only column is retractable), has not been claimed, and as such is considered, dedicated to the public. Figure 2 makes this very clear because of its use of "arrows 206 and 210." All of the "columns" around the gantry are accompanied by in/out ("*towards and away from the subject*") "arrows 206" for "movable sections 204," but only one (shown in yellow box at the top of "gantry 110") shows a movable "arrow 210" for "column 202," but even then, the Figure still shows the telescopingly movable element moving in/out of "column 202." I have not seen anything in GE's papers or the '439 patent that contradicts this.

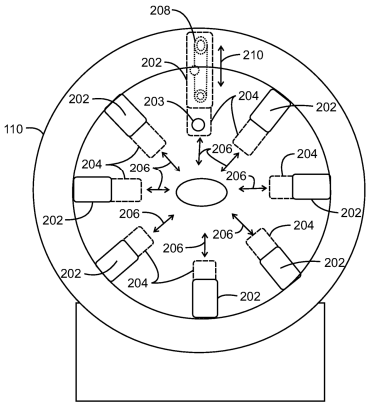
PRIOR ART

65. I have been asked to review the '721 PCT (Exhibit E), specifically I have looked at Figures 6A – 6F, and the accompanying description on pages 49-53.

66. I do not see anything in these Figures involving a telescoping column. But I do see a unitary column (referred to as "arm") 626 (Figure 6E – 6F) having a radiation detector affixed at the tip. As shown by the arrows, the entire column 626 in combination with detector head 622 move together as a single unit on a rail. The column is connected by a suitable pulley such as a belt or cable to a weight 632 to balance the weight of detector head 622 and arm 626 ('721 PCT, p. 51, lines 26 – 28).

67. If I understand GE's position correctly, GE would read the claims to cover exactly what is shown in Figures 6E – 6F of the Spectrum '721 PCT. As such, it is my understanding that claims 1, 2, 9, and 17 of the '439 patent would all be invalid because Figures 6E – 6F show exactly what GE says is claimed.

68. A comparison of what is claimed in the '439 patent versus what is disclosed in the '721 PCT is shown below.



200
FIG. 2

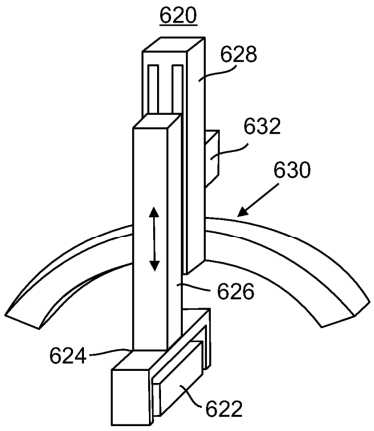


FIG. 6E

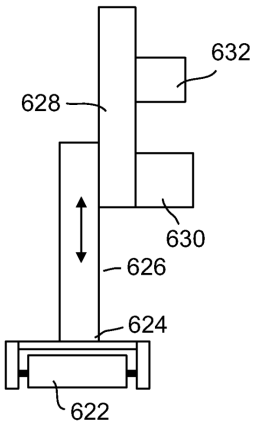


FIG. 6F

69. As shown in Figure 2 of the '439 patent and Figures 6E – 6F of the '721 PCT above, in each case there is a column ("column 202" in the '439 patent and "arm 626" in the '721 PCT) having a detector element on the bottom ("movable sections 204" in the '439 patent and "detector head 622" in the '721 PCT). In Figures 6E – 6F, "arm 626" and "detector head

622" are moving in a unitary fashion towards and away from the patient positioned within the gantry, while being counterbalanced by "weight 632." I conclude that GE's claim interpretation (a column/movable section can be a single element) would include the system shown in Figures 6E – 6F.

70. I have also copied Figures 6A – 6B from the '721 PCT, which according to the specification "Fig 6A shows detector heads 602 in a retracted configuration to provide a large bore, for example, a conventional 90 cm. bore, for performing a full body scan. Fig. 6B illustrates detector heads 602 fully extended to provide a small bore, for example, 20 cm, as it would be used, for example, when performing a brain scan or a scan of the neck." ('721 PCT, p. 49, ll. 19-22.)

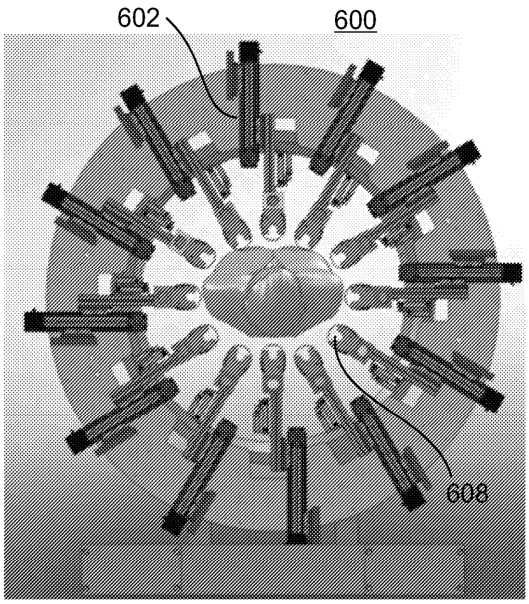


FIG. 6A

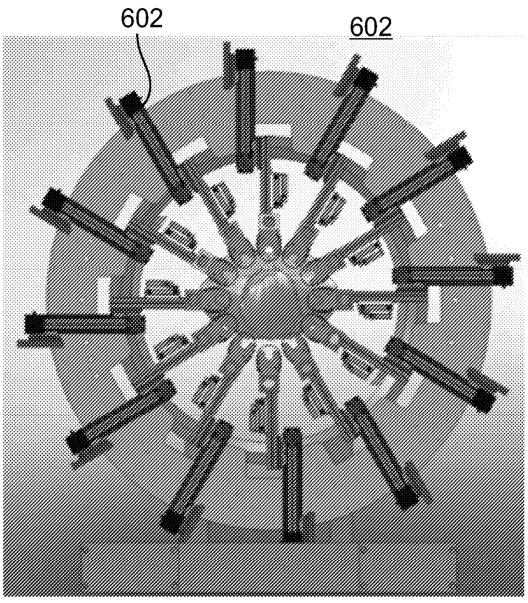


FIG. 6B

71. I have been shown a video animation prepared by Spectrum (Exhibit F, SDML_00038492) that I have been advised was provided to GE in or around 2012, before the filing date of the '439 patent (but I have no first-hand knowledge of this). In my opinion, what is shown in this video corresponds to the embodiment in Figures 6A – 6B and is exactly what is

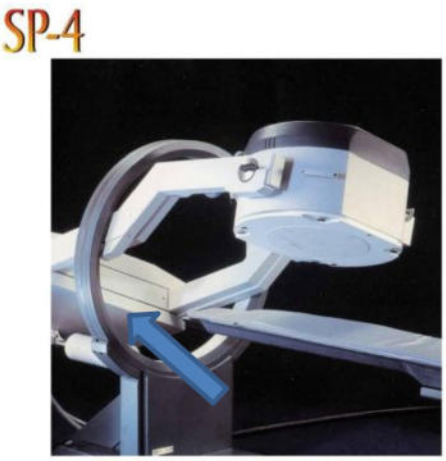
claimed in claims 1, 9 and 17 as GE is interpreting them; namely, a unitary "column" comprising a "movable section" or "movable radiation detector."

72. Given that I understand from counsel that the '721 PCT constitutes prior art to the '439 patent because of its date, I believe that the asserted claims would all be invalid as recited in the attached Invalidity Contentions (Exhibit C) if interpreted as GE proposes.

"Weight Compensation Unit" / "Counterbalanced Weight To Apply A Force"

73. I have also been asked to provide my opinion on the meaning of the phrase "a weight compensation unit" in claims 1 and 17 and "a counter balanced weight to apply a force" in claim 9.

74. The term "weight compensation unit" of claims 1 and 17 does not to my knowledge have a defined meaning in the field of nuclear medicine imaging to a POSA. At most, I believe that a POSA would understand the term as a "unit" for "applying a force." However, the '439 patent provides a very generic definition of "unit" that does not explain the structure to apply such force. ('439 patent, 2:46-58.) During my periods as chief scientist or VP R&D of the technical leadership of the Apex Nuclear Imaging products family, the nuclear medicine R&D team developed several products that used counter balance systems. I clearly remember two products the Apex SP-4 and the JUMBO SPECT 609 (see images below). In these cases, the counterweight was used years before a multi probe CZT based nuclear imaging. These counterweighs were to compensate for a single head gamma imager. These counterweights were totally different than anything like what is described in the patent, but they were counterweights.



EISCINT APEX SP4

EISCINT 609 JUMBO SPECT

75. The only disclosure in the '439 patent that I see that explains a weight compensation unit is that the "unit" (which can be almost anything, i.e., hardware, software, etc.'439 patent, 2:46-58) that comprises a counterbalanced weight, but that again does not explain how the force is applied to the "movable section 204" in claims 1 and 17. According to the patent, the only way to apply the force that I see, and a POSA would understand, is with a counter balanced weight that is coupled to the movable section with pulleys and cables discussed in the specification. ('439 patent, 7:56-58)

76. In my opinion, the "counter balanced weight to apply a force" suffers the same draw back as "weight compensation unit." That is a POSA reading the claims and the '439 patent would not understand how the force was to be applied to the "movable radiation detector 203" of claim 9. By the very claim language, the counter weight is intended to perform a function, i.e., "apply a force."

77. According to Merriam-Webster,[3] a "counterbalance" is "1: a weight that balances another" or "2: a force or influence that offsets or checks an opposing force." I understand a counterbalance weight to mean that a weight is used to counter the "force" created

[3] https://www.merriam-webster.com/dictionary/counterbalance (downloaded at May 4, 2021).

from the element one is looking to offset. This counter force can be realized in many potential ways to offset a force. Therefore, when defining a counter balance it is of a general category and not a specific solution or method.

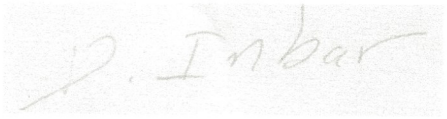
78. Although I hold higher qualifications, my testimony here is from the perspective of a POSA, and is based upon my experience in designing systems during my career and managing those who did. For example, if someone had proposed using a counter balanced weight for a column, I would have asked them for additional details. While I know what a weight and a counterweight are in the abstract, this alone would not have informed me what kind of design being contemplated. Without knowing how the weight was to be used or to what and how it would be attached, I would have many ideas, but no definitive idea what was needed to facilitate and accomplish the desired function of the counter balanced weight. As stated, I was involved with an Anger camera that has a counterweight which is shown in the Invalidity Contentions. This Anger camera is different from what is disclosed in the'439 patent. For this reason, I consider the words "counter balanced weight" to be identify nothing more than a category, rather than a definite structure.

79. My opinion is reinforced by GE's reference to the fact that "other architectures using a counterbalanced weight may be implemented." ('439 patent, 4:21-25). Once again, GE, in my opinion, has chosen terminology to define "counter balanced weight" that is so unspecific that is prohibits me from understanding what kind of counterweight is being contemplated.

80. Claims 1, 9 and 17 also refer to the application of "force," which I note is a vector, while pressure is a scaler. A vector requires both magnitude and direction, while the claims use the words "associated with" in referring to the direction of force opposite to gravity. This is not how a POSA would typically think of a force being exerted. Exerting pressure on something somewhere is not the same as exerting a force on an element in a specific direction.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: May, 10 2021



Dan Inbar